ABSTRACT

TELECOMMUNICATION CARRIER PROCESSOR SUBSYSTEM WITH
IN-BAND CONTROL AND ADDRESSING VIA CELL HEADER FIELDS

A telecommunication carrier processor subsystem (CPS) adapted to
5   receive cells (1, 2), preferably ATM cells, and to derive from the H-bit header
field thereof a smaller set of R bits. The set of R bits is not only used to route
the cell to a predetermined output of the subsystem but is also combined with a
second set of D bits for replacing the VPI/VCI bits in the H-bit header field of
the cell. The second set of D bits may be used for transmitting information data
10 such as user data, control or command transmission. It may also be used for
hand-over process or cell duplication and is then particularly suited for
broadband local access applications relating to low earth orbit satellite
constellations. Preserving the global ATM cell header size while using the freed
D bits after changing the connection identifier range is called in-band control. It
15 allows using off the shelf components for the cell transmission between
sub-systems, boards or components. It also leads to the reduction of
Connection Data Tables in coherence with the dimensioning required for a
processing unit.

20   Fig. 1